A discussion of new developments in nutrition hardly requires justification. Recognition of the world-wide prevalence of malnutrition and of the importance of improving world food supplies has led to action along various lines in development and application of knowledge. It is in terms of the implications of new findings that this symposium is presented.

NEW DEVELOPMENTS IN NUTRITION

INTRODUCTION

Charles Glen King, Ph.D., F.A.P.H.A.

COMPARISON of current world-wide morbidity and death rates with the record of 50 years ago illustrates the spectacular success of research scientists in learning to identify and control diseases caused by infection. Remaining problems in this category are still immense and challenging, but it is clear that noninfectious diseases, particularly those associated with aging, are in ascendancy. A second major advance in the so-called Western countries has been the dramatic success in learning how to feed infants and small children.

Fifty years ago, eight of the ten leading causes of death in the United States, for example, were caused by infections. Now, only one is so classified by combining into one group all forms of influenzas and pneumonias. Even if cancer proves to be caused largely by virus infections, only two infectious diseases would be within the first ten.

Coincident with the lengthening life span, types of metabolic disease have risen sharply in relative importance. Two features of the new trend are conspicuous. First is the very significant role that genetics plays. This is true in a direct sense to diseases such as sickle-cell anemia and galactosemia, and in relation to indirect features not yet clearly understood, as illustrated by diabetes and coronary heart disease.

A second feature is the evidence that an excessive caloric intake is conducive to higher death rates in nearly all forms of metabolic disease, including coronary heart disease, cerebral strokes, generalized atherosclerosis, cancer, diabetes, liver disease, and kidney failure. These conditions are most damaging, of course, in the upper age brackets as Dr. Stare will indicate. Research in this area of public health is moving ahead rapidly and suggesting changes both in living habits and in food practices. We critically need more evidence to understand and evaluate the relative health significance of excess calories, exercise, smoking, fat intake, fat composition, mineral balances, cholesterol regulation, hormone functions, mental stress, and other factors associated with accelerated aging and disease.

In contrast to the struggle to avoid excess body fat, Dr. Scrimshaw will point out that in the newly developing areas, protein deficiency is a major factor in health, both as a direct cause of disease and in the secondary effect of lowering the resistance of infants and children to many kinds of infection and infestation.

A relatively new and very important aspect of protein deficiency in infants and small children will be presented by Dr. Cravioto in showing evidence that neurological and psychomotor impairment during early years may be irreversible, as already shown in relation to physical stature.

The implications of these new findings and related problems of malnutrition in newly developing areas also have a very important significance for our international relations, as will be pointed out by Dr. Darby.

Dr. King is president, the Nutrition Foundation, Inc., New York, N. Y.

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WORLD-WIDE IMPORTANCE OF PROTEIN MALNUTRITION AND PROGRESS TOWARD ITS PREVENTION

Nevin S. Scrimshaw, M.D., M.P.H., F.A.P.H.A.

RECOGNITION of the world-wide prevalence of malnutrition and the importance of improving world food supplies led to the founding of the Food and Agriculture Organization of the United Nations (FAO) in 1945—with Nutrition as one of its five divisions. A Nutrition Section was also recognized as essential in the World Health Organization (WHO), inaugurated three years later. The Nutrition Division of FAO is concerned with food production and food habits and the Nutrition Section of WHO with nutritional disease and its prevention. The common interest of the two organizations in human nutrition problems led to the establishment of a Joint FAO/WHO Expert Committee on Nutrition.

The first session of this committee, held in Geneva in 1948, advised both organizations on nutrition programs and policies. At this meeting "the existence of a poorly-defined nutritional syndrome of the tropics and subtropics, known by the name of kwashiorkor, malignant malnutrition, multiple deficiency, depigmentation-edema syndrome, infantile pellagra, etc. . . ." was mentioned and study of the various aspects of this syndrome was recommended.[1] In October, 1950, John Brock of Capetown, representing WHO, and Marcel Autret, on behalf of FAO, surveyed ten countries and territories of Africa south of the Sahara. As a result, the second meeting of the Joint Expert Committee on Nutrition[2] held in Rome in 1951 discussed the now famous Brock-Autret report[3] which adopted the name kwashiorkor and clarified the fact that the various local names referred to a single